Appl. No. 10/533,803
Amdt. dated May 24, 2006
Response to Office Action of February 24, 2006

932.1302

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) Analyzing system for the detection of reducing and oxidizing gases in a carrier gas 21, which comprises a plurality of detecting means 23, calibrating means 26, and means for processing and control 24 of acquisition and data recognition, wherein said gas-detection means are sensors 23 based on semiconductor-type metal oxides that work in the absence of oxygen, wherein said system implements calibrations in an automated way that is transparent to a user/operator of said system, wherein said system includes means 22 for connecting said carrier gas 21 to a measuring chamber which contains said sensors 23, and wherein said means 24 of processing and control include a system of real-time recognition of said gases, which provides a diagram 25 with delimited decision zones, in which the measurements taken on said carrier gas 21 are situated and identified.

2. (Previously Presented) Analyzing system according to Claim 1, wherein said calibration means include a plurality of patterns or calibrated gases 26 at least equal in number to the number of reducing and oxidizing gases that have to be detected in the carrier gas 21, wherein the response of the plurality of sensors 23 to the measurements of patterns 26 includes the obtaining of a vector of conductance variation for each calibrated gas or standard 26.

Appl. No. 10/533,803
Amdt. dated May 24, 2006
Response to Office Action of February 24, 2006

932.1302

3. (Currently Amended) Analyzing system according to Claim [[1]] 2, wherein said recognition system comprises obtaining a learning matrix resulting from grouping the conductance variation vectors of the measurements taken with the plurality of patterns or calibrated gases 26.

4. (Currently Amended) Analyzing system according to Claim 3, wherein said recognition system identifies the measurements taken in the carrier gas 21, according to the algorithm:

- obtaining a vector of conductance variation for the plurality of sensors that make up the system.

- auto scaling of the vector with ~~the~~ mean values and variances used to auto scale the learning matrix obtained from the patterns or calibrated gases 26.

- projecting the auto scaled vector onto ~~the~~ a space 25 of the principal components extracted on the basis of the learning matrix obtained with the calibration means 26.

- in function of the position occupied by said vector, the system identifies a type of response.

5. (Previously Presented) Analyzing system according to Claim 4, wherein the type of response identified by the system includes the responses of pure carrier gas, contaminated carrier gas at alert level due to at least one contaminant and contaminated carrier gas at alarm level due to at least one contaminant.

6. (Previously Presented) Analyzing system according to Claim 1, wherein said processing and control means 24 include a microprocessor that corrects temporary deviations of the sensor 23

responses and controls and processes the data that permit detection of the presence of reducing and/or oxidizing gases at various pre-established levels.

7. (Previously Presented) Analyzing system according to Claim 1, wherein said connecting means 22 comprise a plurality of electrically operated valves and connecting pipes to permit the carrier gas 21 or calibrated gases 26 to flow through the chamber that contains the sensors 23.

8. (Previously Presented) Analyzing system according to Claim 1, wherein the carrier gas 21 is carbon dioxide.

9. (Previously Presented) Analyzing system according to Claim 1, wherein utilization of the gas sensor 23 based on semiconductor-type metal oxides is proposed for detecting reducing and oxidizing gases present in a carrier gas 21, in the absence of oxygen.